Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal

Section 1. General administrative information

Enhance Upper Yakima River Basin Fish Habitat

Bonneville project number, if an ongoing project 9069

Business name of agency, institution or organization requesting funding
Kittitas County Conservation District

Business acronym (if appropriate) KCCD

Proposal contact person or principal investigator:

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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name

NPPC Program Measure Number(s) which this project addresses.
7.6D, 7.7

NMFS Biological Opinion Number(s) which this project addresses.

Other planning document references.
Upper Yakima River Watershed Project, Wy-Kan-Ush-Mi Wa-Kish-Wit, 20/20 Vision-Yakima River Watershed Council

Subbasin.
Upper Yakima River Basin (in Kittitas County) and associated subbasins.

Short description.
Enhance and protect fish habitat in the Upper Yakima River watershed by providing cost share incentives for rill irrigation system upgrades, improving management practices, improving irrigation delivery and restoring riparian habitat on private lands.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
X	Anadromous fish	*	Construction		Watershed
*	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate		Monitoring/eval.		Flow/survival
	Other	X	Resource mgmt		Fish disease
			Planning/admin.		Supplementation
			Enforcement	X	Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.
Sedimentation, nutrient loading, instream temperature, instream flow, riparian vegetation

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Design and Promote Cost-Share Program	a	Develop specific program guidelines
		b	Design application and contract forms
		c	Develop Evaluation Process
		d	Promote program to local

			landowners
2	Accept Applications, Select Projects, Sign Contracts	a	Assist landowners with project design and applications, permits, biological assessments
		b	Accept completed applications
		c	Evaluate and prioritize project applications, select those to be funded
		d	Sign contracts with landowners
3	Construction/Implementation	a	Construction of upgraded irrigation systems, riparian habitat modifications
		b	Assist Landowners with implementation of management techniques
		c	Ensure projects meet NRCS technical standards
		d	Monitor projects
4	Project Oversight	a	Administration of cost share dollars
		b	Recordkeeping, project reports

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	10/1998	12/1998	4.00%
2	1/1999	2/1999	7.00%
3	3/1999	9/2002	84.00%
4	10/1998	9/2002	5.00%
			TOTAL 100.00%

Schedule constraints.
Constraints: Weather, etc. which may impede construction. Endangered Species Listings which may time consuming requirements.
Milestones: signed contracts, project implementation, landowner payments.

Completion date.
FY02

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
Personnel	2.0 FTE	$55,800
Fringe benefits	(Based on Benefits at 15% of Salary)	$8,370
Supplies, materials, non-expendable property	Office, computer, and field supplies	$8,000
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	Irrigation systems, management equipment, riparian plantings, fencing, livestock watering facilities	$400,080
PIT tags	# of tags:	
Travel	Lease or purchase of vehicle, insurance, fuel, maintenance	$11,250
Indirect costs		
Subcontracts		
Other	Outyear Costs for Future Monitoring	$16,500
TOTAL		$500,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	$5,500	$5,500	$5,500	
O&M as % of total				

Section 6. Abstract

This proposal solicits $500,000 for the purpose of enhancing fish habitat in the Upper Yakima River. The goal is to address the issues of sediment and nutrients in agricultural run-off, in-stream flow, stream temperature, and riparian vegetation through various cost share projects with private landowners. The projects include upgrading rill irrigation to pressurized systems, improving riparian corridors, implementing erosion control management practices, and improving irrigation delivery systems. Objectives include: 1-design/promote a cost share program; 2- accept/evaluate applications; 3-implement and monitor funded projects; and 4-project oversight, including administration of cost share dollars. These objectives will be accomplished using both technical and procedural NRCS standards for cost share programs. Nutrient and irrigation water management are required components of irrigation related projects. Benefits to fish and wildlife will be permanent reductions in sediment and nutrient loading, as well as increases in riparian habitat benefits. Other benefits will include improved on-farm water and nutrient use efficiency. Improved water quality and habitat is a goal of restoration efforts for anadromous fish in the Columbia River Basin Fish & Wildlife Program. All

eligible projects are Best Management Practices (BMPs). BMPs were developed cooperatively by NRCS, Conservation Districts, Universities and producers. The number of affected acres/streams depends on which projects are funded. The time frame is October, 1998 to September 1999, with monitoring and evaluations continuing until September 2002. Monitoring will be in both KCCD's records and the NRCS FOCS computer system, as well as with field studies (e.g. water quality testing).

Section 7. Project description

a. Technical and/or scientific background.

This project is located in the Upper Yakima River Watershed. The watershed includes all lands tributary to the Yakima River north of the Umtanum Gauge. Nearly all of Kittitas County falls in this watershed. The Yakima River is a major tributary in the Columbia River Watershed. The Upper Yakima Watershed area is very diverse in terms of both habitats and water uses. The watershed includes the eastern slopes of the Cascades with its heavy forested areas used for recreational activities and timber harvest. Eastern portions include major irrigated agricultural valleys and dry rangelands. Water is withdrawn for irrigation and other uses and there is significant return flow and drainage from irrigated, as well as urban lands. The agricultural economy is currently dominated by forage crop production (timothy hay, mixed grass, and alfalfa), selected row crops (corn, potatoes, cereal grains) and beef cattle.

The soils of irrigated lands are alluvial in nature with a high degree of variability, and slopes up to 18%. These areas are highly susceptible to irrigation induced erosion. There are approximately 95,400 irrigated acres within this watershed. Water is supplied by the Kittitas Reclamation District and numerous canal companies and private diversions from the Yakima River and tributaries. Some tributaries (e.g. Wilson/Cherry Creek) and irrigation canals intercept irrigation return flow, much of which eventually finds its way to the Yakima River. Soil and nutrients carried with field runoff are deposited along the receiving streams, settling in tributaries, re-mixing with greater flows and settling again lower down the stream channel. Furrow irrigated crops such as potatoes, sweet corn, beans and small grains represent between 5 and 10% of irrigated cropland in any given year. Erosion from freshly cultivated furrows is a major source of suspended sediment to the Wipple Wasteway and other tributary waterways, particularly those in the Cherry Creek drainage.

Riparian habitat in the Upper Yakima River Watershed has been degraded by a number of activities including forest practices, agriculture, recreation, road building, fire, mass wasting, bank cutting, and flood events. Stream corridors often lack tree or brush cover to stabilize banks and shade aquatic habitats. The effects of reduced riparian habitat include increased water temperature, decreased bank stability and therefore higher erosion rates, decreased food and cover for fish, and decreased stable spawning habitat. Of the 90 stream segments identified by Department of Ecology in the Upper Yakima River Watershed, 28 are listed on the 303 (d) Impaired Water Bodies list for temperature violations alone. While these violations are not all due to lack of adequate riparian vegetation, it is a major factor. Enhancement of riparian habitat is particularly important

in those stream segments that currently or historically contained anadromous fish populations. In KCCD's Upper Yakima River Watershed Project, mitigation of temperature and sediment violations is assigned a high priority for all 303 (d) listed stream segments. Enhancement programs usually involve planting trees and shrubs and in some cases re-sloping of banks, in-channel structures and/or fencing are required to stabilize cut embankments.

Producing the designs for these projects may be greatly affected by Endangered Species listings in this basin. ESA could result in requiring Biological Assessments and extensive coordination and consultation with agencies such as National Marine Fisheries, Washington Department of Fish and Wildlife, etc.

KCCD is currently working in conjunction with other agencies to comprehensively address the problems/issues in the Upper Yakima River Watershed. Improving all portions of the habitat for the life cycle of fish species includes the quality of water available. Non-point pollution water quality improvements and riparian habitat improvements can be expensive to achieve. Working cooperatively with private landowners to implement improved irrigation systems, water and nutrient management, and riparian habitat will achieve the goals of an improved anadromous and resident fish habitat. Conservation Districts, and specifically KCCD are very well suited for voluntary programs with landowners, as this is part of the charter of the organization. KCCD's relationship with local landowners as a source of leadership, technical and financial assistance is well established. The Columbia Basin Fish & Wildlife Program emphasizes the importance of a locally led, voluntary approach to protecting and enhancing habitat. This is the approach of conservation districts statewide.

Numerous studies in the Yakima River have stated the irrigated agriculture and riparian habitat problems in various formats:

- The US Geological Survey, in their 1991 Surface Water Quality Assessment of the Yakima River Basin[1] found that in the mainstem of the Yakima River, large concentrations of suspended sediment occurred during periods of peak irrigation, and at the start of the irrigation season when soils were newly tilled and irrigation ditches contained sediment from spring cleaning and windblown sources.
- The Yakima Valley Council of Governments' Water Quality Plan[2] reviewed water quality conditions in the entire Yakima Watershed, breaking it into four sub regions. Problems identified include high temperature, high turbidity and suspended solids, and elevated levels of nutrients. Specific recommendations, also identified for each sub region, included 'implement BMPs for sediment control' and 'accelerate implementation of agricultural BMPs for improved sediment control.' (BMPs, or Best Management Practices, are any equipment, method or construction which reduce the impact of agriculture on soil and water resources.)
- Washington Department of Ecology's (WDOE), 1996 303 (d) List of Impaired Water Bodies[3] contains 39 Stream segments in the Upper Yakima River Watershed. Listing has occurred because the segments exceed state water quality standards for temperature, in-stream flow, dissolved oxygen and pH.

- The Yakima River Spring Chinook Enhancement Study[4], a 1991 document produced by Fish & Wildlife, BPA, and the Yakama Indian Nation, discussed all aspects of salmonid habitat in the Upper and Lower Reaches of the Yakima River. Two of the four listed factors limiting rearing potential are degraded riparian and in-stream habitat and water quality. Degradation of riparian habitat was credited to forest practices, agriculture, recreation and suburbanization. Deposition of fine sediment in stream gravels is discussed as a significant cause of damage to fisheries.
- State of Washington Wild Salmonid Policy Draft EIS[5], published in April, 1997 discusses the habitat element for salmonid species. The importance of water quality improvements, and riparian habitat enhancement was stressed in reaching the goal of 'protecting, restoring and enhancing productivity, production, and diversity of wild salmonids and their ecosystem. . .'
- A Survey of Sediment Sources in Three Watersheds of the Upper Yakima River Basin[6] in 1993 revealed sediment sources and their apparent causes. In the Taneum Creek survey the first 5 miles had 28% of the recorded sediment sources caused by agriculture; 45% due to road-bridge construction, 6% due to irrigation infrastructure; and 18% due to natural or unknown causes. The Teanaway River and South Fork of the Manastash were also studied.
- US Geological Survey (USGS) National Water Quality Assessment Program (NAWQA) Open File Report 91-453[7] reviewed Wilson Creek in regard to temperature. An increasing water temperature trend was associated with agricultural return flows.
- USGS Circular 1090[8] indicates elevated levels of the pesticide DDT linked to past practices. The report cites erosion control efforts and cropping pattern changes to help reduce amounts of suspended sediments and T-DDT that enter streams.
- The Upper Yakima River Watershed Project Draft Report[9], produced by KCCD in 1997, specifically addresses issues in each of the 12 sub-basins throughout this drainage area. It also prioritizes the problems and provides solutions in each of those areas. All issues dealing with sediment or temperature are assigned a high priority as these are the main violations resulting in WDOE 303 (d) listings and other documented water quality and habitat problems (e.g. fine sediment in stream channels).

b. Proposal objectives.

The objectives for the Upper Yakima River Basin Fish Habitat Enhancement Program are:

1. Design and promote a cost share program-- develop specific guidelines, design application and contract forms, develop evaluation process, promote the program to landowners.
2. Accept applications, select projects, sign contracts-- Assist landowners with project designs and applications, permits, biological assessments (as

necessary), GIS and/or AutoCad maps and designs; accept completed applications; evaluate and prioritize applications; select projects to be funded.
3. Construction/implementation—construction of upgraded irrigation systems, riparian vegetation plantings, and fencing and livestock water facilities; implementation of management programs; ensure all projects meet NRCS technical standards; monitor projects.
4. Project oversight—administration of cost share dollars; record keeping.

This project will produce irrigation systems of significantly greater efficiency, agricultural management techniques to reduce sediment and nutrients leaving fields, and enhanced riparian habitats. Objectives 1, and 2 will involve structuring the program in a similar manner to the Natural Resources Conservation Service Environmental Quality Incentives Program (EQIP). The same cost share list will be used and contracts may be similar.

Costs for these projects will be determined by current NRCS cost share standards as a part of Objective 1. For example, if a landowner wished to convert 130 acres from rill to sprinkler irrigation the costs would be as follows: Average Center Pivot irrigation system costs $70,000. 75% cost share would yield a cost of $52,500 to be provided by the program and $17,500 provided by the landowner. Expected benefits from a project like this would be a reduction in irrigation induced erosion from 57 to 1 ton/acre/year (7280 tons/acre/year); irrigation water applied reduced by 7 acre feet/ acre/year (910 acre feet/center pivot/year); as well as a reduction in nitrates leached below the root zone, and nitrates and total phosphorous leaving in surface water.

Riparian habitat improvement project costs are highly variable. The condition of the streambank and buffer area will dictate the level of enhancement necessary. All project costs would be funded at the aforementioned 75% cost share level. A project similar to this proposal was done on the lower reaches of Cherry Creek with BPA funds by the NRCS Ellensburg Field Office and the Yakama Indian Nation. Average cost per foot of streambank treated was approximately $5. This project included restrictive livestock fencing, tree and shrub plantings, barbs and riprap placement, livestock watering access points, and some bank sloping. It is a successful project that could be repeated in many areas of Kittitas County.

Objective 3 may involve irrigation system improvements including structures or equipment (e.g. piping or sprinklers); riparian improvements including trees, shrubs, and grasses planted on streambanks or in buffers, livestock exclusion fences and out of stream livestock watering facilities. Also as a part of Objective 3, reports on the success of implemented management techniques will be prepared for each funded project element within this program. A detailed report on each project will provide documentation, including before and after effects, calculated water and/or soil savings, and riparian habitat inventories. The effects of these projects in streams and rivers of the Upper Yakima River Watershed will include reduced sediment and nutrient loads, increased shade, food, and cover for fish, and potential for increased in-stream flow due to greater water use efficiencies.

Objective 4 involves all administrative aspects of this program including vouchering, participant payments, and all records kept for each project. Procedures will

be similar to those employed in the 1998 Teanaway River Flow Enhancement Project also administered out of KCCD's office.

Producing the designs, noted in Objective 2, for the riparian projects may be greatly affected by Endangered Species listings in this basin. ESA could result in requiring Biological Assessments and extensive coordination and consultation with agencies such as National Marine Fisheries, Washington Department of Fish and Wildlife, etc.

c. Rationale and significance to Regional Programs.

Improved water quality is essential to the restoration of habitat for threatened fish species. As musc as anything else, the water quality and quantity, and riparian habitat available are the critical factors to fish survival rates. Suspended sediment, turbidity, plant nutrients, and pesticides in irrigation return flows are factors in the water quality problems of the upper reaches of the Yakima River. Water quality problems related to inadequate flows affect aquatic habitat viability. Inefficient surface irrigation systems result in over use of water that is intricately related to water quality and aquatic habitat in the riverine systems.

Riparian habitat quality and quantity is a major contributor to the life cycle of salmonids. Shade, food, cover and bank stability provided by a high quality riparian habitat increase survival and productivity of both resident and salmonid fish species. Species of concern in the Yakima River Upper Reaches include Spring and Fall Chinook Salmon and Steelhead, Bull Trout, and Bald Eagles. Bull Trout is proposed to be listed under the Endangered Species Act in June of 1998. Spring and Fall Chinook Salmon are candidate species. In order to either improve stocks and avoid these listings or work quickly toward delisting, riparian habitat issues must be addressed. This proposals sets the stage for a possible continuing program of habitat development and greater water quality improvements.

Washington Department of Ecology (WDOE), Washington Department of Fish and Wildlife and the Columbia Basin Fish & Wildlife Plan among others strongly recommend streams work toward meeting state water quality standards. The WDOE's 303 (d) List of Impaired Water Bodies containing 39 stream segments in Kittitas County highlights violations of state standards. This proposal focuses particular attention on those stream segments.

KCCD will work with a variety of federal, state and local agencies in implementing this program, particularly their conservation partners the Natural Resources Conservation Service. KCCD is also involved with the Tri-County Water Resource Agency and Yakima River Watershed Council both of whom assist in coordinating projects and disseminating information in the Yakima River Basin.

d. Project history

KCCD applied for FY98 funds to perform a Rill to Sprinkler Irrigation Conversion project. If BPA funds that proposal, the FY99 proposal will be a continuation and expansion of that project. If the FY98 project is not fund, this will be a new project.

e. Methods.

This project will utilize methods established and currently used by KCCD and Natural Resources Conservation Service (NRCS). Cost share, evaluation and monitoring procedures will be similar to current KCCD and NRCS programs used in the Environmental Quality Incentives Program (EQIP). Applications received will have designs developed and/or reviewed to ensure that NRCS standards and specifications are met. Oversight of construction projects will be carried out to assure they also meet NRCS standards, and will be certified when complete. Costs will be taken from a list of average costs produced by NRCS with conservation district and local, state and federal input. Cost-share payments will be disbursed as is currently being done for other projects. Follow up assistance for management techniques (irrigation water, nutrient, erosion control), as well as monitoring of project success will be provided for 3 years. Landowners will be required to maintain their respective projects for 10 years.

Tasks associated with each Objective are as follows:

Objective 1. Design and promote a cost share program.

a) Develop specific guidelines for using cost-share dollars including a time frame for accepting applications, maximum cost share dollars available for each type of project, and type and location of projects to be funded.
b) Design application and contract forms to NRCS standards.
c) Develop evaluation process, model after NRCS EQIP measurement system for prioritizing projects to be funded.
d) Promote the program to landowners through KCCD newsletters, newspaper, radio announcements, landowner meetings, etc.

Objective 2. Accept applications, select projects, sign contracts.

a) Assist landowners with project designs and applications; use Geographical Information System and/or AutoCad to produce project maps and designs, as appropriate; utilize NRCS personnel to assist with technical designs; involve an interagency team in riparian design and permit process to facilitate concurrence on designs.
b) Accept completed applications at the District office
c) Evaluate and prioritize applications based on established criteria; select projects to be funded.
d) Finalize and sign contracts with participating landowners.

Objective 3. Construction/implementation

a) Construction of upgraded irrigation systems; riparian vegetation plantings; exclusion fencing; streambank sloping; livestock watering facilities.
b) Assist landowners in implementation of management techniques to include irrigation water management, nutrient management, polyacrylamide

application (erosion control), and irrigation scheduling (these techniques may be part of an on-farm construction project, e.g. installation of a pressurized irrigation delivery system or may be implemented without on-farm equipment changes).

c) Ensure all projects meet NRCS technical standards with site visits by KCCD and NRCS personnel.
d) Monitor projects through periodic field visits over 3 year period; water quality testing; riparian habitat evaluation.

Objective 4. Project oversight.

a) Administration of cost share dollars using computer financial programs (e.g. QuickBooks, Microsoft Excel, Microsoft Projects); verify project costs, voucher costs; and reimburse landowners.
b) Record keeping including a report for each of the projects with total costs and benefits, equipment installed, and success rates.

Projects eligible for funding in this program include conversion of rill irrigation to pressurized sprinkler systems, upgrade of rill irrigation systems, establishing or improving riparian habitat corridors, conversion to pressurized on farm laterals, and use of Polyacrylamide (PAM) and other erosion, nutrient, and water management practices. All of these projects qualify as Best Management Practices (BMPs), which were developed by NRCS, Conservation Districts, Universities and producers. The irrigation system improvements will be focused in the lower agricultural areas of Kittitas County (particularly the Wilson-Cherry Creek drainage). Riparian habitat enhancement projects along streams that historically or currently provide habitat for salmonids and have a high potential for effective restoration will be given priority for funding.

Measurement of the implementation of these projects will be done through the NRCS field office, utilizing the FOCS computer system. This system tracks number of acres, locations, soil types, estimated soil savings, riparian and stream practices implemented and other data for each on-farm implementation project. KCCD will also maintain a data base of landowners receiving technical and cost-share assistance, as well as a GIS database of locations, soils, stream information, acres, and other parameters.

This project will be evaluated by reviewing the number of upgraded irrigation systems, number of acres affected, feet of streambank habitat enhanced, number of WDOE established stream segments affected and changes in water quality characteristics (e.g. sediment and nutrient load). In regard to irrigation system upgrades and water, erosion and nutrient management techniques, specific numbers will be provided regarding estimated soil and water saved.

Expected results of this program include significant soil and water savings due to more efficient irrigation systems, decreases in sediment and nutrient loading of streams due to irrigation systems and management changes, and increases in benefits from enhanced riparian habitats.

Producing the designs for the riparian projects may be greatly affected by Endangered Species listings in this basin. ESA could result in requiring Biological Assessments and extensive coordination and consultation with state and federal agencies.

If these time consuing activities do not materialize, labor cots could be greatly reduced and those funds applied to the cost share funds.

f. Facilities and equipment.

Equipment necessary to complete this project are survey equipment, a vehicle, Geographical Information System and associated computer equipment, and a HP Designjet plotter (for GIS maps). KCCD either owns or has access to all of this equipment through NRCS, except the vehicle. The needed vehicle will either be leased or purchased and will be necessary for at least FY99 and possibly for the following two years for continuing activities.

Major capital expenditures for upgrading irrigation systems or improving riparian habitat will be purchased through the cost share program and funding from participating landowners. Individual landowners will assume all maintenance and operation costs. Landowners will be required to maintain irrigation systems, riparian habitat improvements and other physical equipment for a period of 10 years. Landowners implementing management strategies will be required to keep records for 3 years.

KCCD will do intensive monitoring for 3 years to include site visits, habitat inventories and water sampling. A WDOE accredited laboratory will be utilized for analyzing any water samples.

g. References.

[1]United States Geological Survey. 1991 Surface Water Quality Assessment of the Yakima River Basin. United States Geological Survey.

[2]Yakima Valley Council of Governments. 1995. Yakima River Basin Water Quality Plan.

[3]Washington Department of Ecology. 1996 Section 303 (d) List of Impaired Water Bodies.

[4]Fast, D.; Hubble, J., Kohn, M., and B. Watson. 1991. Yakima River Spring Chinook Enhancement Study. Final Report. Bonneville Power Administration, Portland, Oregon.

[5]Keller, Steve. 1997. Discussion of Habitat Element. Wild Salmonid Policy Draft Environmental Impact Statement. Washington Department of Fish & Wildlife. Olympia, Washington.

[6]Arango, C., Eitemiller, D., and H. Fraser. 1993. A Survey of Sediment Sources Within Three Forested Watersheds of the Upper Yakima River Drainage Basin. Central Washington University and the Yakima Resource Management Cooperative, Ellensburg, Washington.

[7]USGS NAWQA Yakima River Basin Analysis of Available Water-Quality Data through 1985 Water Year. Open File Report 91-453.

[8]USGS. 1993. Persistence of the DDT Pesticide in the Yakima River Basin, Washington. Circular 1090.

[9]Kittitas County Conservation District. 1997. Upper Yakima River Watershed Project Draft Report. Ellensburg, Washington.

Section 8. Relationships to other projects

A concerted effort in education, demonstration and implementation of improvements in irrigation management, application systems, management activities and habitat improvements is ongoing in the KCCD and NRCS office. In past years, several grants from the Department of Ecology and the Washington Conservation Commission have allowed KCCD to demonstrate and promote new methods of conserving natural resources in this basin. This proposal will fit in the District's program very well and extend its ability from predominately demonstration of actions to construction and implementation on large scale.

In addition, with the Upper Yakima River Watershed Project (a WDOE Grant Project by KCCD) has identified problems within subbasins of the Upper Yakima River Watershed and prioritized those problems. The next step is to locate funding sources to address the priority problems. All problems dealing with excess sediment and temperature in streams are assigned high priorities. Upgrading irrigation systems, implementing management techniques and enhancing riparian restoration address these two problems at their sources.

This proposal will follow other BPA projects in the Upper Yakima River Basin including the Teanaway River Instream Flow Restoration Project and possibly the Rill to Sprinkler Irrigation Conversion Project in the Kittitas Valley (FY98 BPA grant request has been submitted for this project). Improved in-stream flows and water quality are expected to result from the Teanaway River project.

Producing the riparian habitat designs may be greatly affected by Endangered Species listings in this basin. ESA could result in requiring Biological Assessments and extensive coordination and consultation with agencies such as National Marine Fisheries, Washington Department of Fish and Wildlife, etc. to satisfy the stringent standards associated with ESA.

In communicating and working with other Conservation Districts in the Yakima River Basin, as well as state and federal agencies, this project will be a part of comprehensive attempt to address water quality and habitat issues throughout the basin. In working together, we increase our chances of successful mitigation of concerns and issues surrounding anadromous fish in the Yakima River.

Section 9. Key personnel

Name: Anna Olsen, Field Technician (1.0 FTE)
Project Duties: Coordinate the prioritization, contracting, implementation and follow-up of projects for all cost-share recipients.
Resume:
Education
B.S. Natural Resource Management (Wildlife), Washington State University, 1995
Current Employment Responsibilities
Field Technician, Kittitas County Conservation District, February 1997 to Present.

Serve as lead staff in the implementation of the Department of Ecology Water Quality and Water Conservation Grant and Washington State Conservation Commission Non Point Pollution Grant.

Past Employment

Volunteer Soil Survey and Field Office Aide, NRCS Ellensburg FO, Jan. 1996- Jan. 1997
Legal Process Assistant I, Lower Kittitas County District Court, Sept. 1996- Jan. 1997
Fisheries/Hydroacoustic Tech. (Wanapum Dam), Hydroacoustic Technology Inc., 1996
Farmer/Farm Hand, Badger Pocket, 1985- 1991 and 1997- Present

Project Expertise

In the past 10 months, I have worked with all aspects of a grant project. I collected all field data (soil moisture, water quality, water quantity), worked with 4 growers (6 fields), and have been involved in the vouchering process and the writing of progress reports. In addition, I am responsible for putting together District newsletters, computerizing the District financial data, assisting with the District Plant Sale, and serve as lead staff in this office. During 1998, I will handle the vouchering and payment of cost share dollars for the Teanaway River Flow Enhancement Project, funded by BPA.

Name: Another full time employee may be hired in the process of implementing this proposal should it be funded. Their qualifications will include experience and/or expertise in riparian restoration and irrigation activities.

Section 10. Information/technology transfer

Information obtained from this project will be distributed to state, federal, and local agencies, as well as local landowners through KCCD's normal communications (e.g. newsletters, site tours, grower meetings, and displays at workshops and fairs).

Information about the program and results in terms of acres affected, water and soil saved, feet of riparian habitat enhanced, etc., will be distributed throughout the Yakima River Basin through the Yakima River Watershed Council and Yakima River Watershed Information Center. These agencies have responsibility for communicating and maintaining databases on these types of projects, and are the best suited to promote these types of projects.